

JP

Attorney Docket No.: 002900/D2/EPIC/EPIC/JW

PATENT

JC971 U.S. PTO
09/843419
04/26/01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

D. Scott
7-12-01

In re Application of:

) Group Art Unit:

Suketu A. Parikh

) Examiner:

Serial No.: New Divisional Application

Filed:

) INFORMATION DISCLOSURE STATEMENT

For: Techniques For Triple And Quadruple
Damascene Fabrication

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This Information Disclosure Statement

- ☒ [X] is filed within three months after the filing date of a national application or three months after the date of entry of the national stage in an international application or before the mailing date of a first office action on the merits, whichever occurs last. 37 C.F.R. § 1.97(b).
- ☐ [] is filed **before** the mailing date of either (a) a final action under § 1.113 or (b) a notice of allowance under § 1.311, whichever occurs first, and is accompanied by
— certification as specified in § 1.97(e) or
— the fee set forth in § 1.17(p). 37 C.F.R. § 1.97(c).
- ☐ [] is filed **after** the mailing date of either (a) a final action under § 1.113 or (b) a notice of allowance under § 1.311, whichever occurs first, but before the payment of the issue fee, and is accompanied by

- ___ certification as specified in § 1.97(e);
- ___ a petition requesting consideration; **and**
- ___ the petition fee set forth in § 1.17(i)(1). 37 C.F.R. § 1.97(d)

Applicant submits herewith patent(s), publication(s), or other information of which applicant is aware, which applicant believes may be material to the examination of this application and in respect of which there may be a duty to disclose. The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. 1.97(g)), an admission that the information cited is, or considered to be, material to patentability or that no other material information exists. The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25. Each reference is identified on the attached Form PTO-1449. A copy of each of the references is supplied herewith.

A concise explanation of the items listed on PTO-1449 is:

- ☒ [X] not given, since all items are in the English language
- ☐ [] given for only some listed non-English language item(s)
- ☐ [] given for each listed item, since all are non-English language documents

The following printed publications are referred to in the body of the specification:

U.S. Pat. No.: 5,635,423, to Huang et al. (1997)
Kaanta et al., "Dual Damascene: A ULSI Wiring Technology", VMIC Conference, IEEE,
pp. 144-152, Jun. 11-12, 1991

Applicant has become aware of the following printed publications which may be material to the examination of this application:

U.S. Pat. Nos.:

- 6,143,646, to Wetzel, 2000
- 6,133,144, to Tsai et al., 2000
- 6,133,140, to Yu et al., 2000
- 6,114,234, to Merchant et al., 2000
- 6,107,204, to Yu et al., 2000
- 6,103,619, to Lai, 2000
- 6,057,227, to Harvey, 2000
- 6,051,881, to Klein et al., 2000
- 6,017,817, to Chung et al., 2000
- 6,001,733, to Huang et al., 1999
- 5,897,369, to Jun, 1999
- 5,886,411, to Kohyama, 1999
- 5,759,911, to Cronin et al., 1998
- 5,741,626, to Jain et al., 1998

5,739,579, to Chiang et al., 1998
5,726,100, to Givens, 1998
5,705,430, to Avanzino et al., 1998
5,691,238, to Avanzino et al., 1997
5,663,101, to Cronin, 1997
5,651,855, to Dennison et al., 1997
5,614,765, to Avanzino et al., 1997
5,592,024, to Aoyama et al., 1997
5,539,255, to Cronin, 1996
5,354,711, to Heitzmann et al., 1994

European Pat. Application Nos.:

EP0911697A, 1999

EP0851483A, 1998 & 1999


EP0680085A, 1995

Girard et al., "Same Level Integration Of Dual Thickness And Pitch Metal", paper presented
At the Thin Film Users Group, California Chapter, 11 pages, Oct. 1997, (best
copy available is supplied).

Applicant respectfully submits that the invention claimed in the above identified application
is patentable over the references known to applicant and disclosed herein.

Respectfully submitted,

Dated: April 25, 2001

By: 
Albert J. Dalhuisen
Reg. No.: 36,117

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		002900/D2/EPIC/EPIC/JW Attorney Docket No.:	Serial No.: New Appl'n			
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicant: Suketu A. Parikh				
				Filing Date:	Group:			
(37 CFR § 1.98(b))								
U.S. PATENT DOCUMENTS								
Examiner Initials		Serial/Patent Number	Issue Date	Applicant/Patentee	Class	Subclass	Filing Date	
	AA	6,143,646	11/7/00	Wetzel	438	637	6/3/97	
	AB	6,133,144	10/17/00	Tsai et al.	438	634	3/6/99	
	AC	6,133,140	10/17/00	Yu et al.	438	624	10/2/98	
	AD	6,114,234	9/5/00	Merchant et al.	438	631	6/23/99	
	AE	6,107,204	8/22/00	Yu et al.	438	694	10/2/98	
	AF	6,103,619	8/15/00	Lai	438	638	10/8/99	
	AG	6,057,227	5/2/00	Harvey	438	626	6/23/97	
	AH	6,051,881	4/18/00	Klein et al.	257	756	12/5/97	
	AI	6,017,817	1/25/00	Chung et al.	438	637	5/10/99	
	AJ	6,001,733	12/14/99	Huang et al.	438	633	10/1/98	
	AK	5,897,369	4/27/99	Jun	438	629	9/16/96	
	AL	5,886,411	3/23/99	Kohyama	257	774	7/14/97	
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION								
		Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation Yes No	
	AZ	0911697A	4/28/99	EP ✓	G03F	1/00		X
	BA	0851483A	1998 & 1999 ✓	EP	H01L21	768		X
	BB	0680085A	1995 ✓	EP	H01L21	768		X
OTHER DOCUMENTS (including Author, Title, Date, Relevant Pages, Place of Publication)								
	BC	Girard et al. "Same Level Integration Of Dual Thickness And Pitch Metal", paper presented at the Thin Film Users Group, California Chapter, 11 pages, Oct. 1997						
	BD	Kaanta et al., "Dual Damascene: A ULSI Wiring Technology", VMIC Conference, IEEE, pp. 144-152, Jun. 11-12, 1991 ✓						
Examiner:				Date Considered:				
EXAMINER:				Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.				

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04/26/01

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicant: Suketu A. Parikh			
(37 CFR § 1.98(b))				Filing Date:		Group:	

U.S. PATENT DOCUMENTS							
Examiner Initials		Serial/Patent Number	Issue Date	Applicant/Patentee	Class	Subclass	Filing Date
	AM	5,759,911	6/2/98	Cronin et al.	438	622	8/22/95
	AN	5,741,626	4/21/98	Jain et al.	430	314	4/15/96
	AO	5,739,579	4/14/98	Chiang et al.	257	635	9/10/96
	AP	5,726,100	3/10/98	Givens	438	702	6/27/96
	AQ	5,705,430	1/6/98	Avanzino et al.	437	195	6/7/95
	AR	5,691,238	11/25/97	Avanzino et al.	437	195	6/7/95
	AS	5,663,101	9/2/97	Cronin	438	637	2/7/96
	AT	5,651,855	7/29/97	Dennison et al.	156	636.1	4/1/96
	AU	5,635,423	6/3/97	Huang et al.	437	195	10/11/94
	AV	5,614,765	3/25/97	Avanzino et al.	257	774	6/7/95
	AW	5,592,024	1/7/97	Aoyama et al.	257	751	10/28/94
	AX	5,539,255	7/23/96	Cronin	257	750	9/7/95
	AY	5,354,711	10/11/94	Heitzmann et al.	437	182	7/8/93

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION								
		Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation Yes No	

OTHER DOCUMENTS (including Author, Title, Date, Relevant Pages, Place of Publication)		

Examiner:	Date Considered:
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	